

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S3	1600	438/689.icls.	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	ON	2005/09/20 11:29
S4	513	438/690.icls.	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	ON	2005/09/22 14:44
S5	712	438/691.icls.	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	ON	2005/09/22 14:26
S6	2110	438/692.icls.	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	ON	2005/09/20 11:29
S17	1973647	@ad>"20020222" @rlad>"20020222" @prad>"20020222"	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	ON	2005/09/23 10:02
S19	743	438/680.icls.	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	ON	2005/09/22 14:52
S22	108	427/585.icls. S17	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	ON	2005/09/23 10:03
S23	2	427/589.icls. S17	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	ON	2005/09/22 14:48
S24	60	438/759 S17	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	ON	2005/09/22 15:05
S26	188	438/931.icls.	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	ON	2005/09/23 10:04
S27	115	438/507.icls.	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	ON	2005/09/23 10:04
S28	132	438/105.icls.	US-PGPUB; USPAT; USOCR; EPO; JPO	AND	ON	2005/09/23 10:04

PAT-NO: JP02000243706A

DOCUMENT-IDENTIFIER: JP 2000243706 A

TITLE: FORMING METHOD OF CVD FILM AND DUMMY WAFER

PUBN-DATE: September 8, 2000

INVENTOR-INFORMATION:

NAME

KOJIMA, HIROSHI

COUNTRY

N/A

ASSIGNEE-INFORMATION:

NAME

ASAHI GLASS CO LTD

COUNTRY

N/A

APPL-NO: JP11043676

APPL-DATE: February 22, 1999

INT-CL (IPC): H01L021/205, C23C016/44

ABSTRACT:

PROBLEM TO BE SOLVED: To enable a silicon-containing SiC film formed on the surface of a dummy wafer through a CVD method hard to be peel off and to lessen the surface of the dummy wafer in impurity content, by a method wherein the surface of the dummy surface is specified in average roughness.

SOLUTION: The surface of a dummy wafer, where an SiC film 2 is formed, is set at about 1 to 10 μm in average roughness. When the average roughness is smaller than about 1 μm , since the roughened surface of the dummy wafer becomes less conducive to preventing the SiC film 2 from being peeled off, and when the average roughness is larger than about 10 μm , the average roughness is apt to be irregular through the surface of the wafer, so that it is not suitable. The surface of the dummy wafer is set at 1 to 10 μm in average roughness, by which the silicon-containing SiC film 2 formed of the surface of a semiconductor wafer can be made hard to peel off.

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PAT-NO: JP411340108A
DOCUMENT-IDENTIFIER: JP ~~11340108~~ A
TITLE: SILICON CARBIDE DUMMY WAFER

PUBN-DATE: December 10, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
UKITA, SHIGEYUKI	N/A
NOGAMI, AKIRA	N/A

ASSIGNEE-INFORMATION:

NAME	COUNTRY
TOYO TANSO KK	N/A

APPL-NO: JP10146809
APPL-DATE: May 28, 1998

INT-CL (IPC): H01L021/02

ABSTRACT:

PROBLEM TO BE SOLVED: To greatly improve the availability of a device by suppressing the occurrence of particles, by specifying the surface roughness of a dummy wafer which is used in a semiconductor manufacturing process and formed by using a silicon carbide to at least its surface.

SOLUTION: The surface roughness Ra of a dummy wafer which is used in a semiconductor manufacturing process and formed by using silicon carbide to at least its surface is adjusted to $\geq 1 \mu\text{m}$. However, the upper limit of the surface roughness is set at $10 \mu\text{m}$. The dummy wafer is obtained by coating a porous silicon carbide with a compact silicon carbide and the surface roughness of the wafer is adjusted to $\geq 1 \mu\text{m}$ by coating the porous silicon carbide with the compact silicon carbide after treating the surface of the porous silicon carbide to prescribed surface roughness. The porous silicon carbide is formed by converting base graphite material into the silicon carbide by the CVD method, and the compact silicon carbide is formed by the CVD method.

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PAT-NO: JP411238690A
DOCUMENT-IDENTIFIER: JP ~~41238690~~ A
TITLE: DUMMY WAFER AND MANUFACTURE THEREOF

PUBN-DATE: August 31, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
KOJIMA, HIROSHI	N/A

ASSIGNEE-INFORMATION:

NAME	COUNTRY
ASAHI GLASS CO LTD	N/A

APPL-NO: JP10299416

APPL-DATE: October 21, 1998

INT-CL (IPC): H01L021/205 , B24C001/00 , C04B035/565

ABSTRACT:

PROBLEM TO BE SOLVED: To provide a dummy wafer and a method of manufacturing the same which is made difficult for a CVD film attached to the surface to exfoliate, even if it grows thick.

SOLUTION: A dummy wafer Wa, having an average surface finish Ra of 1 to 10

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PAT-NO: JP411121315A
DOCUMENT-IDENTIFIER: JP 11121315 A
TITLE: MULTILAYER SILICON CARBIDE WAFER

PUBN-DATE: April 30, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
KAWAHARA, FUMITOMO	N/A

ASSIGNEE-INFORMATION:

NAME	COUNTRY
MITSUI ENG & SHIPBUILD CO LTD	N/A
ADO MAP:KK	N/A

APPL-NO: JP09296361

APPL-DATE: October 14, 1997

INT-CL (IPC): H01L021/02 , H01L021/205

ABSTRACT:

PROBLEM TO BE SOLVED: To provide a multilayer silicon carbide wafer which is detected by a photosensor and is high in purity by a method wherein the multilayer silicon carbide wafer is composed of silicon carbide layers which are laminated by a CVD method, and each having different light transmittance.

SOLUTION: A silicon carbide wafer 32 is of four-layered structure composed of a first SiC film 34 to a fourth SiC film 40 which are all nearly equal in quality. That is, the first SiC film 34 is formed on the surface of a graphite base material, the second SiC film 36, the third SiC film 38, and the fourth SiC film 40 are successively formed thereon by a CVD method, and boundaries 42, 44, and 46 are each formed between the SiC films 36, 38, and 40. The SiC films 34 to 40 are each so constituted that crystal grains 48 are set smaller in diameter at the bottom of the film and set gradually larger in diameter with a distance from the bottom. By this setup, the silicon carbide wafer 32 can be detected with a photosensor and used as a monitoring wafer for detecting particles.

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PAT-NO: JP411121312A
DOCUMENT-IDENTIFIER: JP 11121312 A
TITLE: SILICON CARBIDE WAFER

PUBN-DATE: April 30, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
KAWAMOTO, SATOSHI	N/A

ASSIGNEE-INFORMATION:

NAME	COUNTRY
MITSUI ENG & SHIPBUILD CO LTD	N/A
ADO MAP:KK	N/A

APPL-NO: JP09294841

APPL-DATE: October 13, 1997

INT-CL (IPC): H01L021/02 , C30B029/36

ABSTRACT:

PROBLEM TO BE SOLVED: To provide a silicon carbide wafer which does not rub out a plastic container even when the wafer comes into contact with the container.

SOLUTION: A silicon carbide wafer 40 is composed of a thin disk like silicon carbide body and both surfaces 42 and 44 of the wafer 40 are formed in rough surfaces having average roughness of 0.1-0.2 μm . The peripheral edge sections of the surfaces 42 and 44 are chamfered and the peripheral side face of the wafer 40 including the chamfered sections is finished to a mirror surface of 0.01-0.02 μm in average roughness.

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PAT-NO: JP411121311A
DOCUMENT- JP 11121311 A
IDENTIFIER:
TITLE: SILICON CARBIDE MATERIAL, ITS MANUFACTURE AND SILICON CARBIDE
WAFER

PUBN-DATE: April 30, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
SANO, SUMIHISA	N/A

ASSIGNEE-INFORMATION:

NAME	COUNTRY
MITSUI ENG & SHIPBUILD CO LTD	N/A
ADO MAP:KK	N/A

APPL-NO: JP09294839

APPL-DATE: October 13, 1997

INT-CL (IPC): H01L021/02 , C30B029/36

ABSTRACT:

PROBLEM TO BE SOLVED: To provide a silicon carbide material which is hardly charged with electricity and high in impurity by a method wherein an antistatic layer formed of material which is composed of silicon carbide with group III or V element containal and lower in resistivity than a silicon carbide base is provided to the surface of the silicon carbide base.

SOLUTION: A silicon carbide wafer 40 comprises a silicon carbide base 42 and antistatic layers 44 each provided to both sides of the silicon carbide base 42. The antistatic layers 44 is formed through a method wherein a group III element such as boron or a group V element such as nitrogen or phosphorus which serves as dopant for silicon semiconductor is ion-implanted into the surface layer of the silicon carbide base 42, or, the antistatic layer 44 is formed through a CVD method where mixed gas of gas which contains group III or groups V element and gas which contains silicon carbide film-forming due to material gas is used. By this setup, particle adsorption static electricity is prevented for the silicon carbide wafer 40, so that the silicon carbide wafer 40 can be kept free from an adversary effect such as contamination.

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PAT-NO: JP411092295A
DOCUMENT-IDENTIFIER: JP 11092295 A
TITLE: SILICON CARBIDE DUMMY WAFER
PUBN-DATE: April 6, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
UCHIGAWA, MASAOKI	N/A

ASSIGNEE-INFORMATION:

NAME	COUNTRY
MITSUI ENG & SHIPBUILD CO LTD	N/A
ADO MAP:KK	N/A

APPL-NO: JP09260963

APPL-DATE: September 9, 1997

INT-CL (IPC): C30B029/36, C30B033/08 , H01L021/02 , H01L021/66

ABSTRACT:

PROBLEM TO BE SOLVED: To surely detect an SiC wafer held in a cassette in the detection of the presence of a wafer by a photoelectric sensor.

SOLUTION: At least a part of the surface of a dummy wafer made of SiC is processed to make the surface roughness to be rougher than that of the other face. The processed part is formed only at the sensing position of a photoelectric sensor for detecting a wafer and has a partially opaque nature or formed in the form of concentric circles or mesh. The processed part having increased surface roughness is produced by laser beam machining or diamond machining after the polishing of the dummy wafer. The wafer can be detected by the detection light of the photoelectric sensor by adjusting the average roughness of the roughened part to $Ra \geq 0.5$.

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PAT-NO: JP411087202A
DOCUMENT-IDENTIFIER: JP 11087202 A
TITLE: SILICON CARBIDE MONITORING WAFER
PUBN-DATE: March 30, 1999

INVENTOR-INFORMATION:
NAME
SANO, SUMIHISA

ASSIGNEE-INFORMATION:	
NAME	COUNTRY
MITSUI ENG & SHIPBUILD CO LTD	N/A
KK ADO MATSUPU	N/A

APPL-NO: JP09260962
APPL-DATE: September 9, 1997

INT-CL (IPC): H01L021/02

ABSTRACT:

PROBLEM TO BE SOLVED: To enable one to readily check the thickness of a formed silicon wafer film.

SOLUTION: A silicon carbide wafer 10 is grown at an orientation of [111] direction 12, so as to have a structure wherein a layer of carbon atoms C and a layer of silicon atoms Si sequenced in the [111] direction 12, respectively, are arranged alternately. Accordingly, when the silicon carbide wafer 10 is cut or ground along the direction parallel to a (111) plane, one face turns into an Si-atom face, and the other face turns into a C-atom face.

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